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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/808,228

03/24/2004

David M. Cox

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KILYK & BOWERSOX, P.L.L.C.

3603 CHAIN BRIDGE ROAD

SUITE E

FAIRFAX, VA 22030

EXAMINER

HOPKINS, ROBERT A

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/808,228	<b>Applicant(s)</b> COX ET AL.	
	<b>Examiner</b> Robert A. Hopkins	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 25-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-17 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 18-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### *Election/Restrictions*

Claims 25-27 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2-13-08.

### *Claim Rejections - 35 USC § 112*

Claims 1-10 and 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites " a valve separating the first liquid-containment feature from the second liquid containment feature and capable of being opening to provide a fluid Communication between the first liquid-containment feature and the second liquid-containment feature, the valve including a substrate, a cover layer, and a displaceable adhesion material between the substrate and the cover layer".

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "valve" in claim1 is used by the claim to mean "a device that is activated to provide fluid communication between containment features", while the

accepted meaning is “a device that is capable of turning of and on to control a fluid flow.” The term is indefinite because the specification does not clearly redefine the term. Claims 2-10 depend on claim 1 and hence are also rejected.

Claim 5 recites “wherein the third depth and the fourth depth are about the same depth”. Examiner respectfully submits the term “about the same depth” is indefinite because “about the same depth” is not defined by the claim nor by the specification, and someone of ordinary skill in the art would not have knowledge as the boundaries of the limitation "about the same depth".

Claim 18 recites “a valve separating the first liquid-containment feature from the second liquid containment feature and capable of being opening to provide a fluid Communication between the first liquid-containment feature and the second liquid-containment feature, the valve including a substrate, a cover layer, the cover layer being attached to the substrate by way of a layer of displaceable adhesion material". Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “valve” in claim1 is used by the claim to mean “a device that is activated to provide fluid communication between containment features”, while the accepted meaning is “a device that is capable of turning of and on to control a fluid

flow.” The term is indefinite because the specification does not clearly redefine the term. Claims 19-21 depend on claim 18 and hence are also rejected.

***Allowable Subject Matter***

Claims 11-17 and 22-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 11 recites “a substrate including a first surface, a first liquid-containment feature formed in the first surface, a second liquid-containment feature formed in the first surface, an intermediate wall at least partially defined by the first surface and separating the first-liquid containment feature from the second liquid containment feature, And a trap recessed in relation to the first surface of the substrate and arranged adjacent the intermediate wall, an elastically deformable cover sheet, and a layer of displaceable adhesion material applied to at least a portion of a side of the cover sheet, wherein the cover sheet is adhered to the first surface of the substrate at, at least the intermediate wall when the cover sheet is in a non-deformed state”. Yue et al teaches a microfluidic device including a substrate having a base, the base covered with an adhesive backed film, wherein pressure is applied to the film to cause the adhesive to be forced into the channels 870, 875, and 876(paragraph 0125), wherein forcing the adhesive into the channels closes the channels preventing flow communication between the chambers and between the channels and chambers. However Yue et al does not teach the specific limitations of claim 11 and also Yue has an effective filing date of June 30 2005, which does not predate the effective filing date of July 26, 2002, and

therefore does not qualify as a 102(e) type reference. Claims 12-17 depend on claim 11 and hence are also allowed.

Claim 22 recites "a method of actuating a valve, comprising: providing a microfluidic device, the microfluidic device comprising first and second liquid-containment features, a deformable valve capable of selectively controlling fluid communication between the first liquid-containment feature and the second liquid-containment feature, and a trap recessed with respect to, and adjacent, the deformable valve, the deformable valve including a substrate, a cover layer, and a layer of displaceable adhesion material disposed in contact with and between the substrate and the cover layer.; deforming the cover layer and the substrate, with a deformer; and forcing displaceable adhesion material displaced from the layer of displaceable adhesion material, into the trap". Yue et al teaches a microfluidic device including a substrate having a base, the base covered with an adhesive backed film, wherein pressure is applied to the film to cause the adhesive to be forced into the channels 870, 875, and 876(paragraph 0125), wherein forcing the adhesive into the channels closes the channels preventing flow communication between the chambers and between the channels and chambers. However Yue et al does not teach the specific limitations of claim 22 and also Yue has an effective filing date of June 30 2005, which does not predate the effective filing date of July 26, 2002, and therefore does not qualify as a 102(e) type reference. Claims 23 and 24 depend on claim 22 and hence are also allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rah  
March 18, 2008

/Robert A Hopkins/  
Primary Examiner, Art Unit 1797

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